What is claimed is:

1. Apparatus for storing energy generated by a primary electric power source and for regenerating electricity from the stored energy, the apparatus comprising:

an electrolyzer energized by the primary electric power source to disassociate water into hydrogen and oxygen;

a gas collection system comprising:

a first gas-water column connected to the electrolyzer to form a first flow loop in which the hydrogen produced in the electrolyzer passes to the first gas-water column and forces water from the first gas-water column into the electrolyzer;

a second gas-water column connected to the electrolyzer to form a second flow loop in which oxygen produced in the electrolyzer passes to the second gas-water column and forces water from the second gas-water column into the electrolyzer; and

a gas storage system connectable to receive and store hydrogen from the first flow loop and oxygen from the second flow loop;

a hydrogen-to-electricity converter connectable to receive at least hydrogen from the gas storage system and to generate electricity therefrom; and

a valving system maintaining pressure of the hydrogen in the first flow loop and pressure of the oxygen in the second flow loop at a selected pressure above about 1,000 psi by controlling flow of hydrogen from the first flow loop and oxygen from the second flow loop to the gas storage system.

2. The apparatus of Claim 1 wherein the valving system maintains the pressure in the first flow loop and in the second flow loop at about 2,500 – 5,000 psi.

3. The apparatus of Claim 1 wherein the valving system maintains the pressure in the first flow loop and in the second flow loop at about 3,000 psi.

4. The apparatus of Claim 1 wherein the gas collection system comprises an additional first gas-water column forming an additional first loop in which hydrogen from the electrolyzer passes into the additional first gas-water column to force water from the additional first gas-water column into the electrolyzer,

an additional second gas-water column forming an additional second flow loop in which oxygen passes from the electrolyzer into the second gas-water column to force water from the second gas water-column into the electrolyzer, and the valving system includes valving alternately connecting the first and second gas-water columns to the electrolyzer and then the additional first gas-water column and the additional second gas-water column to the electrolyzer.

5. The apparatus of Claim 1 wherein the gas storage system comprises at least one hydrogen storage tank and at least one oxygen storage tank.

6. The apparatus of Claim 4 wherein the at least one hydrogen storage tank has about twice the volume of the at least one oxygen storage tank.

7. The apparatus of Claim 6 wherein the at least one hydrogen storage tank comprises a plurality of hydrogen storage tanks and the at least one oxygen storage tank comprises a plurality of oxygen storage tanks.

8. The apparatus of Claim 1 wherein the hydrogen-to-electricity converter comprises a fuel cell.

9. The apparatus of Claim 8 wherein the fuel cell receives oxygen from the gas storage system as well as hydrogen for use in generating electricity.

10. The apparatus of Claim 1 wherein the hydrogen-to-electricity converter is a combustion engine driven generator.

11. The apparatus of Claim 10 wherein the combustion engine driven generator receives oxygen from the gas storage system as well as hydrogen for use in generating electricity.

12. A method of providing electricity to a specified location remote from a utility generating station, the method comprising the steps of:

generating utility generated electricity at the utility generating station during both low demand and high demand periods;

transmitting the utility generated electricity from the utility generating station to the specified location;

disassociating water at the specified location into hydrogen and oxygen utilizing the utility generated electricity generated during the lower demand periods;

storing the hydrogen and oxygen at the specified location; and

supplying at least the hydrogen stored to a hydrogen-to-electricity converter at the specified location during high demand periods to generate locally generated electricity.

13. The method of Claim 12 wherein the step of transmitting the utility generated electricity comprises transmitting the utility generated electricity over a transmission system supplying additional locations in addition to the specified location with electricity and having a transmission capacity insufficient to supply electricity requirements at the specified location and at the additional locations during the high demand periods, the locally generated electricity being sufficient with the utility generated electricity available at the specified location to supply the electricity requirement at the specified location during the high demand periods.

14. The method of Claim 12 wherein the step of transmitting the utility generated electricity comprises transmitting the utility generated electricity over a transmission system to the specified location and to additional locations, wherein the disassociation of water at the specified location and storing of the hydrogen and oxygen is carried out during off peak periods, and wherein the locally generated electricity is generated in the hydrogen to electricity converter utilizing at least the hydrogen stored and is supplied to the transmission system during peak periods.

15. The method of Claim 12 wherein the utility generated electricity is transmitted to a plurality of distributed specified locations, where it is used to disassociate water into hydrogen and oxygen which is stored and at least the hydrogen is later used to generate locally generated electricity.

16. The method of Claim 12 wherein a fuel cell is used as the hydrogen-to-electricity converter to generate the locally generated electricity.

17. The method of Claim 12 wherein the oxygen stored as well as the hydrogen stored is used in the fuel cell to generate the locally generated electricity.

18. The method of Claim 12 wherein a combustion engine driven generator is used as the hydrogen-to-electricity converter to generate the locally generated electricity.

19. The method of Claim 18 wherein the oxygen stored as well as the hydrogen stored is used in the combustion engine driven generator to generate the locally generated electricity.

20. The method of Claim 12 wherein at least the hydrogen stored is supplied to the hydrogen-to-electricity converter at the specified location also when there is an interruption of transmission of the utility generated electricity to the specified location.

21. A method of deferred electric power generation comprising the steps of:

disassociating water into hydrogen and oxygen in an electrolyzer utilizing electricity from a primary source;

utilizing the hydrogen and oxygen to inject water into the electrolyzer;

regulating pressure of the hydrogen and oxygen produced by the electrolyzer to a pressure of at least about 1,000 psi by drawing off and storing the hydrogen and oxygen in a storage system; and

providing at least the hydrogen at a later time from the storage system to a hydrogen-to-electricity converter to generate electricity.

22. The method of Claim 21 comprising regulating pressure of the hydrogen and oxygen produced in the electrolyzer to a pressure of about 2,500-5,000 psi.

23. The method of Claim 22 comprising regulating pressure of the hydrogen and oxygen produced in the electrolyzer to a pressure of about 3,000 psi.

24. The method of Claim 21 wherein utilizing the hydrogen and oxygen to inject water into the electrolyzer comprises directing hydrogen in a first flow loop from the electrolyzer to a first gas-water column from which water is forced by the hydrogen into the electrolyzer and directing the oxygen in a second flow loop from the electrolyzer to a second gas-water column from which water is forced by the oxygen into the electrolyzer.

25. The method of Claim 24 wherein utilizing the hydrogen and oxygen to inject water into the electrolyzer comprises providing an additional first loop through which hydrogen is directed from the electrolyzer to an additional first gas-water column from which water is forced by the hydrogen into the electrolyzer, providing an additional second loop through which oxygen is directed from the electrolyzer to an additional second gas-water column from which water is forced by the oxygen into the electrolyzer, and alternately, connecting the first and second flow loops to the electrolyzer while the additional first and second gas-water columns are charged with water, and then connecting the additional first and second flow loops to the electrolyzer while the first and second gas-water columns are charged with water.

26. The method of Claim 25 wherein storing the hydrogen and oxygen in a storage system comprises:

alternately filling a succession of hydrogen tanks with hydrogen from one of the first and additional first gas-water columns utilizing the pressure of at least 1,000 psi generated in the electrolyzer and filling a succession of oxygen tanks with oxygen from a corresponding one of the second and additional second gas-water columns utilizing the pressure of at least 1,000 psi generated in the electrolyzer while depressurizing and recharging with water the other of the first and additional first gas-water columns and the corresponding other of the second and additional second gas-water columns, and then filling the succession of hydrogen tanks with hydrogen from the other of the first and additional first gas-water columns utilizing the pressure of at least 1,000 psi generated in the electrolyzer and filling the succession of oxygen tanks with the corresponding other of the second and additional second gas-water columns utilizing the pressure of at least 1,000 psi generated in the electrolyzer while depressurizing and recharging with water the one of the first and additional first gas-water columns and the corresponding one of the second and additional second gas-water columns.

27. The method of Claim 26 wherein the pressure in the electrolyzer is regulated to about 2,500-5,000 psi.

28. The method of Claim 26 wherein the pressure in the electrolyzer is regulated to about 3,000 psi.

29. The method of Claim 21 wherein a fuel cell is used as the hydrogen-to-electricity converter to generate electricity.

30. The method of Claim 29 wherein the fuel cell uses the oxygen from the storage system as well as the hydrogen to generate electricity.

31. The method of Claim 21 wherein a combustion engine driven generator is used as the hydrogen-to-electricity converter to generate electricity.

32. The method of Claim 31 wherein the oxygen as well as the hydrogen from the storage system is used by the combustion engine to generate electricity.